H

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,198	11/14/2001	Ken'ichi Kasazumi	10873.841US01	7022

23552 7590 08/25/2004

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER	
BATTAGLIA, MICHAEL V	
ART UNIT	**PAPER NUMBER**
2652	6

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,198	KASAZUMI ET AL.	
	Examiner	Art Unit	
	Michael V Battaglia	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6 and 9* is/are rejected.

7)☒ Claim(s) *2-5,7,8 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action, dated August 6, 2004, is in response to Applicant's amendment, filed June 1, 2004. Claims 1-10 are pending.

Drawings

1. Replacement drawings were received on June 1, 2004. These drawings are acceptable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Henshaw et al (hereafter Henshaw) (US 5,319,629).

In regard to claim 1, Henshaw discloses a holographic optical information recording/reproducing device (Fig. 1) that, to reproduce digital data recorded in a form of interference fringes produced by two coherent beams in a recording medium (Col. 6, lines 58-66), projects a coherent beam to the recording medium and receives a reproduction signal beam obtained by diffraction at the recording medium by means of a two-dimensional photodetector array (Fig. 1, elements 134 and 144 and Col. 7, lines 3-21 and Col. 16, lines 29-31), the holographic optical information recording/reproducing device comprising: a tunable coherent light source that emits the coherent beam (Fig. 1, element 102 and Col. 6, lines 2-3) and a control section that reads a position information of the reproduction signal beam on the two-dimensional

photodetector array, and controls a wavelength of the tunable coherent light source according to the position information (Col. 7, lines 47-52 and 59-62).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henshaw in view of Yamaji et al (hereafter Yamaji) (US 6,088,321).

Henshaw discloses a lens system (Fig. 1, elements 136, 140, and 142) for focusing diffracted light from the recording medium (Fig. 1, element 118) into the two-dimensional photodetector array (Fig. 1, elements 134 and 144). Henshaw does not disclose the location of the focus of the lens system.

Yamaji discloses a lens system (Fig. 1, element 20) for focusing diffracted light from a recording medium (Fig. 1, element 19) into a two-dimensional photodetector array (Fig. 1, element 21), wherein the recording medium is disposed at a position different from a focus of the lens system (Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dispose the recording medium of Henshaw at a position different than the focus of the lens system of Henshaw as suggested by Yamaji, the motivation being to dispose the recording medium in relation to the focus of the lens system in a manner known in the art.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henshaw in view of Kitaoka et al (hereafter Kitaoka) (US 5,385,650).

Henshaw discloses the optical information recording/reproducing device of claim 1 that uses a tunable coherent light source that is a coherent light source (Col. 6, lines 2-3). Henshaw does not disclose that the tunable coherent light source is a coherent light source utilizing a tunable semiconductor laser and a second-harmonic generation element.

Kitaoka discloses utilizing a tunable semiconductor laser and a second-harmonic generation element as a coherent light source (Fig. 1B, elements 1 and 3 and Col. 14, lines 1-6). Kitaoka further discloses second-harmonic generation elements allow harmonics to be generated with high efficiency (Col. 1, lines 37-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a tunable semiconductor laser and a second-harmonic generation element in the tunable coherent light source of Henshaw as suggested by Kitaoka, the motivation being to generate harmonics with high efficiency.

Allowable Subject Matter

5. Claims 2-5, 7-8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed June 1, 2004 with respect to claim 1 have been fully considered but they are not persuasive.

Henshaw neither discloses that the broadband light source (Fig. 1, element 138) as a coherent light source nor that the broadband light source is tunable. The examiner does not attempt to characterize the broadband light source as a tunable coherent light source. Instead, only the tunable laser (Fig. 1, element 102) is characterized as tunable coherent light source.

The tunable coherent light source is not claimed as being used to determine position information. All that is claimed is that to reproduce digital data, the device projects a coherent beam, emitted by a tunable coherent light source, to the recording medium and a reproduction signal beam obtained by diffraction at the recording medium is received by means of a two-dimensional photodetector array, wherein position information of the reproduction signal beam is read. In other words, in claim 1, to reproduce data, both a coherent beam from a tunable coherent light source is projected and position information of a reproduction signal beam is read but the claim does not require that the position information is read or determined using the coherent beam projected from the tunable coherent light source.

Henshaw discloses that to reproduce digital data, a reproduction signal beam obtained by diffraction at the recording medium (Fig. 1, element 118) is received by means of a two-dimensional photodetector array (Fig. 1, elements 134 and 144), wherein position information of the reproduction signal beam is read (Col. 7, lines 47-52). The position information is then used to carry out the reproduction (Col. 7, lines 59-62), which includes adjusting the wavelength of the tunable coherent light source to the wavelength determined by (i.e. according to) the position information and projecting a coherent beam to the recording medium (Col. 7, lines 3-10). The y-

coordinate, wavelength, and Bragg angle memory address determined from the reproduction signal beam (Col. 7, lines 47-52) is interpreted as position information of the reproduction signal beam because it gives the position in memory of a search argument and is determined from the reproduction signal beam. The output planes of Henshaw (Fig. 1, elements 134 and 144) are interpreted as a single two-dimensional photodetector array. Therefore, the single two-dimensional photodetector array of Henshaw has two planes. It is noted that both planes are two-dimensional arrays of photodetectors (Col. 7, lines 18-21 and Col. 16, lines 29-31) and that claim 1 does not limit the two-dimensional photodetector array to having only one plane. It is also noted that claim 1 claims reading position information of the reproduction signal and does not specify that a **beam position** is determined **for a coherent source**. Further, claim 1 does not claim that reproduced digital data is included reproduction signal beam nor that position information of the reproduced signal is read while recorded digital data is being reproduced. Instead, claim 1 claims that position information of the reproduction signal is read to control a wavelength of the tunable coherent light source to reproduce digital data. Therefore, the device of Henshaw that reads position information of a reproduced signal to control and set the wavelength of a tunable coherent light source that is then used to reproduce recorded digital data meets the limitations of claim 1. In conclusion, it is noted that although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed June 1, 2004 with respect to claim 9 have been fully considered but they are not persuasive. Applicant's arguments regarding the limitations of claim 1 incorporated into claim 9 are unpersuasive for the reasons stated above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael V. Battaglia

HOA T. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
8/20/04